AFOB MALAYSIA CHAPTER
Asian Federation of Biotechnology

PROGRAMME BOOK

ASIAN FEDERATION OF BIOTECHNOLOGY REGIONAL SYMPOSIUM 2025

Biotechnology Horizons: Nurturing Sustainability for Global Well -being

27 th – 30 th July 2025 | THE EVERLY PUTRAJAYA, MALAYSIA

Organised by:

AFOB MALAYSIA CHAPTER
Asian Federation of Biotechnology

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GENERAL TENTATIVE PROGRAMME

Day 1	**27th July 2025**		
		3.00 PM	Registration *The Everly Putrajaya Hotel Lobby*
		6.30 PM	Welcome Reception *Rebung 2 Restaurant, Putrajaya*
Day 2	**28th July 2025**		
8.00 AM	Registration *Entrance of Mesmera Ballroom 1, First Floor*	**12.00 PM**	Poster Presentation *Foyer, First Floor*
9.00 AM	Opening Ceremony *Mesmera Ballroom 1, First Floor*	**1.00 PM**	Lunch *Foyer, First Floor*
10.00 AM	Morning Tea Break *Foyer, First Floor*	**2.30 PM**	Technical Sessions *Mesmera Ballroom 1, Inspirasi 1, Inspirasi 2*
10.30 AM	Plenary Talk 1 Prof. Dr. Noriho Kamiya *Mesmera Ballroom 1, First Floor*	**5.00 PM**	Afternoon Tea Break *Foyer, First Floor*
11.30 AM	Photo Session *Mesmera Ballroom 1, First Floor*	**8.00 PM**	Gala Dinner *Mesmera Ballroom 1, First Floor*
Day 3	**29th July 2025**		
8.00 AM	Registration *Entrance of Mesmera Ballroom 1, First Floor*	**12.40 PM**	Poster Presentation *Foyer, First Floor*
9.00 AM	Plenary Talk 2 Prof. Dr. Yu-Kaung Chang *Mesmera Ballroom 1, First Floor*	**1.00 PM**	Lunch *Foyer, First Floor*
10.00 AM	Morning Tea Break *Foyer, First Floor*	**2.30 PM**	Technical Sessions *Mesmera Ballroom 1, Inspirasi 1, Inspirasi 2*
10.30 AM	Technical Sessions *Mesmera Ballroom 1, Inspirasi 1, Inspirasi 2*	**4.15 PM**	Afternoon Tea Break *Foyer, First Floor*
		4.45 PM	Closing and Awards *Mesmera Ballroom 1, First Floor*
Day 4	**30th July 2025**		
8.00 AM	Excursion		

WELCOME ADDRESS

Prof. Ts. Dr. Suraini Abd Aziz
Chairman
Asian Federation of Biotechnology (AFOB) Regional Symposium 2025 (ARS2025)

President
Asian Federation of Biotechnology Malaysia Chapter

Assalamualaikum warahmatullahi wabarakatuh,
Salam Sejahtera, and a very warm welcome to all,

On behalf of the Asian Federation of Biotechnology Malaysia Chapter (AFOBMC), it is my great pleasure and honour to welcome you to the 15th Asian Federation of Biotechnology (AFOB) Regional Symposium 2025 (ARS 2025), held from 27 to 30 July 2025 at The Everly Hotel, Putrajaya, Malaysia.

This year's symposium embraces the theme "Biotechnology Horizons: Nurturing Sustainability for Global Well-Being" underscoring our collective dedication to harnessing biotechnology as a powerful catalyst for sustainable development, environmental responsibility, and enhanced quality of life for communities worldwide.

Organized by the AFOB Malaysia Chapter, ARS 2025 stands as a premier platform that brings together researchers, scientists, academics, and industry leaders from around the globe. It provides a valuable opportunity to exchange ideas, share groundbreaking research, and foster collaborations across the diverse and evolving fields of biotechnology. We are privileged to host an impressive lineup of distinguished speakers and participants, whose expertise spans environmental biotechnology, bioprocess engineering, food and agricultural innovation, and medical biotechnology. Your active involvement will undoubtedly enrich the discussions and inspire innovative solutions to some of the most urgent global challenges we face today.

I would also like to convey my heartfelt appreciation to our partners, sponsors, and dedicated organizing committee and event team members for their unwavering support and tireless efforts in bringing ARS 2025 to life.

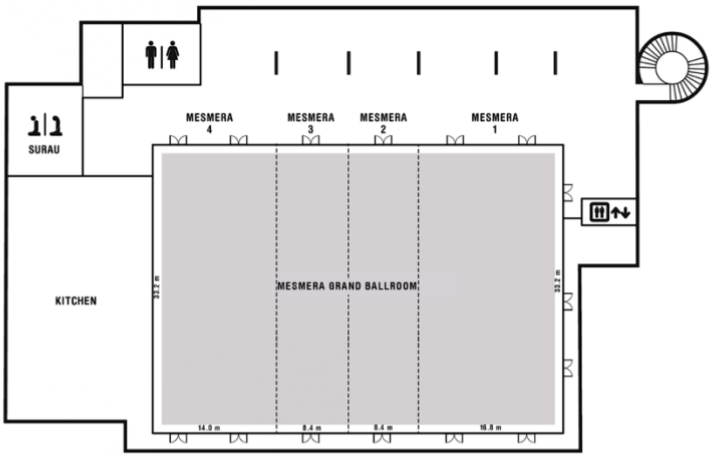
As we begin this exciting journey over the next few days, I encourage all of you to connect meaningfully, collaborate actively, and cultivate ideas that will shape the future of biotechnology - not only for scientific progress, but for the well-being of humanity and the sustainability of our planet.

Once again, welcome to ARS 2025. I wish you a productive, inspiring, and memorable symposium. Thank you.

CONFERENCE VENUE LAYOUT

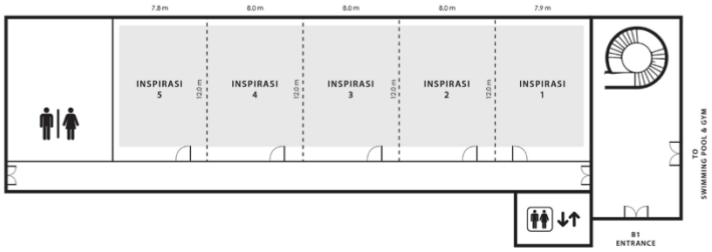
OVERALL LAYOUT

MESMERA BALLROOM 1, FIRST FLOOR



MESMERA - 1st Floor

INSPIRASI 1 AND INSPIRASI 2, B1 FLOOR



INSPIRASI - B1 Floor

DETAILED TENTATIVE PROGRAMME

Day 1 **27 July 2025**
1500 – 1800 Registration (The Everly Putrajaya Hotel Lobby)
1830 – 2100 Welcome Reception (Rebung 2 Restaurant, Putrajaya)
Day 2 **28 July 2025**
0800 – 0830 Registration (Entrance of Mesmera Ballroom 1, First Floor)
0900 – 1000 Opening Ceremony and Welcoming Speech Opening Speech **Prof. Dr. Duk Jae Oh** **Secretary General** **Asian Federation of Biotechnology (AFOB)** **Sejong University, South Korea** Welcoming Speech **Prof. Ts. Dr. Suraini Abd Aziz** **ARS2025 Conference Chair** **President AFOB Malaysia Chapter** **Universiti Putra Malaysia, Malaysia** (Mesmera Ballroom 1, First Floor)
1000 – 1030 Morning Tea Break (Foyer, First Floor)
1030 – 1130 Plenary Talk 1 **Prof. Dr. Noriho Kamiya** **Kyushu University, Japan** Engineering biomolecules via biocatalysis for sustainable biomanufacturing. Session Chair: **Assoc. Prof. Ts. Dr. Mohamad Faizal Ibrahim** **Universiti Putra Malaysia, Malaysia** (Mesmera Ballroom 1, First Floor)
1130 Photo Session (Mesmera Ballroom 1, First Floor)
1200 Poster Presentation (Foyer, First Floor)
1300 Lunch (Foyer, First Floor)

1400 - 1700 Technical Sessions		
Technical Session 1 *Biopharmaceutical and Medical Biotechnology* *Applied Microbiology* *Tissue Engineering and Biomaterials*	**Technical Session 2** *Bioenergy and Biorefinery* *Environmental Biotechnology* *Marine Biotechnology*	**Technical Session 3** *Bioenergy and Biorefinery* *Bioprocess and Bioseparation Engineering* *Nanobiotechnology, Biosensors and Biochips*
Session Chair: **Dr. Shafinaz Abd Gani** **Universiti Putra Malaysia, Malaysia** (Mesmera Ballroom 1, First Floor)	Session Chair: **Dr. Khalisanni Khalid** **Malaysian Agricultural Research and Development Institute, Malaysia** (Inspirasi 1, Basement 1 Floor)	Session Chair: **Assoc. Prof. Dr. Noorjahan Banu Mohamed Alitheen** **Universiti Putra Malaysia, Malaysia** (Inspirasi 2, Basement 1 Floor)
1400 – 1420 Keynote 1.1 **Prof. Dr. Duk Jae Oh** **Sejong University, South Korea** Development of DMSO-free, serum-free chemically defined cryopreservation media for mammalian cells.	**1400 – 1420** Keynote 2.1 **Prof. Dr. Ni Nyoman Tri Puspaningsih** **Universitas Airlangga, Indonesia** Bioproduction of exogenous feed enzyme (EFE), reducing the food loss and waste.	**1400 – 1420** Keynote 3.1 **Prof. Dr. Penjit Srinophakun** **Kasetsart University, Thailand** Potential of non-edible oils for high-quality bio-lubricants production.
1420 – 1440 Keynote 1.2 **Prof. Dr. Suchada Chanprateep Napathorn** **Chulalongkorn University, Thailand** Valorization of organic waste for sustainable polyhydroxyalkanoate (PHA) production: advancing the circular economy and environmental sustainability.	**1420 – 1440** Keynote 2.2 **Assoc. Prof. Dr. Shaza Eva Mohamad** **Universiti Teknologi Malaysia, Malaysia** Microalgae as a source of innovation for sustainable bioproducts and clean technologies.	**1420 – 1440** Keynote 3.2 **Prof. Dr. Yu Shen Cheng** **National Yunlin University of Science and Technology, Taiwan** Insect biorefinery as a practical platform for achieving SDGs and BiCRS.
1440 – 1455 Invited 1.1 **Dr. Nurriza Ab Latif** **Universiti Teknologi Malaysia, Malaysia** Integrating in silico and in vitro strategies to unlock nature's therapeutic potential.	**1440 – 1455** Invited 2.1 **Prof. Dr. Toshinari Maeda** **Kyushu Institute of Technology, Japan** Effect of photo irradiation on anaerobic digestion of waste sewage sludge.	**1440 – 1455** Invited 3.1 **Prof. Ir. Dr. Juferi Idris** **Universiti Teknologi MARA Sarawak, Malaysia** Steam-activated carbon from coconut-based self-sustained carbonization biochar for gas emission treatment.
1455 – 1510 Invited 1.2 **Assoc. Prof. Dr. Mohd Fauzi Mh Busra** **Universiti Kebangsaan Malaysia, Malaysia** Multifunctional natural-based biomaterials strategies for cutaneous tissue engineering: conventional approach towards bioconvergence 3D-bioprinting.	**1455 – 1510** Invited 2.2 **Assoc. Prof. Dr. Cahyo Budiman** **Universiti Malaysia Sabah, Malaysia** Bioproduction, engineering, and phenol removal efficiency of recombinant tyrosinase from shiitake mushroom (*Lentinula edodes*)**.**	**1455 – 1510** Invited 3.2 **Dr. Kuan Shiong Khoo** **Yuan Ze University, Taiwan** Microalgae biotechnology: Views in upstream and downstream processing.
1510 – 1525 Invited 1.3	**1510 – 1525** Invited 2.3 **Ts. Dr. Nahrul Hayawin Zainal**	**1510 – 1525** Invited 3.3 **Assoc. Prof. Dr. Prakit Sukyai**

Prof. Dr. Awang Ahmad Sallehin Awang Husaini **Universiti Malaysia Sarawak, Malaysia** Fungal laccase as a green biocatalyst: recent advances in production, characterization, and multifunctional applications in waste valorization, environmental remediation, and biopreservation.	**Malaysian Palm Oil Board, Malaysia** Enhanced POME polishing using activated sludge with suspended media: A tertiary treatment approach.	**Kasetsart University, Thailand** Upcycling sugar refinery waste for bone tissue engineering.
1525 – 1540 Invited 1.4 **Assoc. Prof. Dr. Zazali Alias** **Universiti Malaya, Malaysia** Current status and potential of fern in biological research.	**1525 – 1540** Invited 2.4 **Dr. Kallaya Sritunyalucksana-Dangtip** **National Center for Genetic Engineering and Biotechnology (BIOTEC), Thailand** Innovet AMR 2.0-ShrimpGuard project: Development of phage-associated formulation to combat antimicrobial resistant *Vibrio spp.* in cultured shrimp.	**1525 – 1540** Invited 3.4 **Assoc. Prof. Dr. Wan Abd Al-Qadr Imad Wan Mohtar** **Universiti Malaya, Malaysia** Bioreactor dye-eating fungus (BioDeF) system.
1540 – 1555 Oral 1.1 (Online) **Prof. Dr. Gemerlyn G. Garcia** **Central Luzon State University, Philippines** Development of a diagnostic kit for re-emerging red tide in the Philippines.	**1540 – 1555** Invited 2.5 **Dr. Nor Hasmaliana Abdul Manas** **Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia** Laccase immobilization on biochar for carbazole degradation.	**1540 – 1555** Oral 3.1 **Assoc. Prof. Dr. Suriana Sabri** **Universiti Putra Malaysia, Malaysia** A genome-guided approach to uncover and purify potent antimicrobials from *Bacillus velezensis* PD9 for combating multidrug-resistant pathogens.
1555 – 1610 Oral 1.2 (Online) **Assoc. Prof. Dr. Nor'Aini Abdul Rahman** **Universiti Putra Malaysia, Malaysia** Characterization of bacterial isolates with PGPR traits and their effect on wheat seed germination.	**1555 – 1610** Oral 2.1 **Prof. Dr. Surendraraj Alagarsamy** **Kuwait Institute for Scientific Research, India** Novel thermostable alkaline protease isoenzymes from sabkha-derived *Marinobacter*: functional characterization and industrial implications.	**1555 – 1610** Oral 3.2 **Assoc. Prof. Dr. Hoang Anh Hoang** **Ho Chi Minh City University of Technology, Vietnam** Phage therapy - a solution against antimicrobial resistance in fishery industry in Vietnam.
1610 – 1625 Oral 1.3 (Online) **Dr. Nurul Akmar Hussin** **Universiti Malaysia Sabah, Malaysia** Application of *Bacillus licheniformis*-derived chitinase as a biocontrol agent against termites.	**1610 – 1625** Oral 2.2 **Mr. Syeqqal Ismail** **Universiti Tun Hussein Onn Malaysia, Malaysia** Toxicological characterization of cresol compounds from food industry effluents with aryl hydrocarbon receptor (AhR) activation via molecular docking analysis.	
1700 Afternoon Tea Break (Foyer, First Floor)		
2000 – 2300 Gala Dinner (Mesmera Ballroom 1, First Floor)		

<table>
<tr><td colspan="3"></td></tr>
<tr><td colspan="3">Day 3
29 July 2025</td></tr>
<tr><td colspan="3"><u>0830 – 0900</u>
Registration
(Entrance of Mesmera Ballroom 1, First Floor)</td></tr>
<tr><td colspan="3"><u>0900 – 1000</u>
Plenary Talk 2

Prof. Dr. Yu-Kaung Chang
Yuan Ze University, Taiwan
Enhanced antibacterial efficacy of PHMB-immobilized chitosan/dye-modified nanofiber membranes.

Session Chair:
Assoc. Prof. Dr. Madihah Md Salleh
Universiti Teknologi Malaysia, Malaysia

(Mesmera Ballroom 1, First Floor)</td></tr>
<tr><td colspan="3"><u>1000 – 1030</u>
Morning Tea Break
(Foyer, First Floor)</td></tr>
<tr><td colspan="3"><u>1030 – 1315</u>
Technical Sessions</td></tr>
<tr><td>Technical Session 4
Bioenergy and Biorefinery
Biocatalyst and protein engineering
Systems and Synthetic Biotechnology
Agricultural and Food Biotechnology</td><td>Technical Session 5
Bioprocess and Bioseparation Engineering
Bioindustry Promotion and Bioeducation
Agricultural and Food Biotechnology
Biocatalysis and Protein Engineering</td><td>Technical Session 6
Systems and Synthetic Biotechnology
Agricultural and Food Biotechnology
Environmental Biotechnology</td></tr>
<tr><td>Session Chair:
Prof. Ir. Dr. Juferi Idris
Universiti Teknologi MARA Sarawak, Malaysia

(Mesmera Ballroom 1, First Floor)</td><td>Session Chair:
Prof. Dr. Awang Ahmad Sallehin Awang Husaini
Universiti Malaysia Sarawak, Malaysia

(Inspirasi 1, Basement 1 Floor)</td><td>Session Chair:
Ts. Dr. Nozieana Khairuddin
Universiti Putra Malaysia, Malaysia

(Inspirasi 2, Basement 1 Floor)</td></tr>
<tr><td><u>1030 – 1050</u>
Keynote 4.1
Prof. Dr. Sung Ok Han
Korea University, South Korea
Towards a green platform: sustainable porphyrin biosynthesis in Corynebacterium glutamicum for multifunctional Use.</td><td><u>1030 – 1050</u>
Keynote 5.1
Assoc. Prof. Dr. Madihah Md Salleh
Universiti Teknologi Malaysia, Malaysia
Removal of phenolic compound from oil palm fronds improvement of biobutanol production by locally isolated Clostridium acetobutylicum species.</td><td><u>1030 – 1050</u>
Keynote 6.1
Assoc. Prof. Dr. Zetty Norhana Balia Yusof
Universiti Putra Malaysia, Malaysia
Harnessing Malaysian seaweed potential: a sustainable solution for crop health and enhanced production.</td></tr>
</table>

1050 – 1110 Keynote 4.2 **Prof. Dr. Mohd Shukuri Mohamad Ali** **Universiti Putra Malaysia, Malaysia** Evolution-driven protein engineering: insights from reconstructed and cold-active lipases of family I.3 from *Pseudomonas sp*.	**1050 – 1110** Keynote 5.2 **Assoc. Prof. Dr. Siti Sarah Othman** **Universiti Putra Malaysia, Malaysia** Innovating STEM education from lab to market.	**1050 – 1110** Keynote 6.2 **Assoc. Prof. Dr. Antonio Di Martino** **Tomsk Polytechnic University, Russia** Novel food packaging material based on the lignin and starch from the sugar palm *Arenga pinnata* fibers.
1110 – 1125 Invited 4.1 **Dr. Ahmad Bazli Ramzi** **Universiti Kebangsaan Malaysia, Malaysia** Bioengineering of bioplastic-producing microbes for plastic bio-upcycling applications.	**1110 – 1125** Invited 5.1 **Assoc. Prof. Dr. Yusuf Abduh** **Institut Teknologi Bandung, Indonesia** Synthesis of bioactive protein hydrolysates from dehulled seeds of *Hevea brasiliensis.*	**1110 – 1125** Invited 6.1 **Assoc. Prof. Dr. Dayang Salwani Awang Adeni** **Universiti Malaysia Sarawak, Malaysia** Tapping the potential of Sarawak's Nipa Sap: 'Gula apong' and emerging bio-products.
1125 – 1140 Invited 4.2 **Dr. Fina Amreta Laksmi** **Research Center for Applied Microbiology, National Research and Innovation Agency (BRIN), Indonesia** Advances in protein engineering of extremozymes for sustainable food, health, and industrial bioprocess applications.	**1125 – 1140** Invited 5.2 **Dr. Tan Teng Ju** **International Islamic University Malaysia, Malaysia** Investigation of antioxidant activity of basil essential oil and extracts produced by different extraction methods.	**1125 – 1140** Invited 6.2 **Assoc. Prof. Dr. Khanom Simarani** **Universiti Malaya, Malaysia** Unseen heroes: how microorganisms ensure food security and drive sustainability.
1140 – 1155 Oral 4.1 (Online) **Assoc. Prof. Dr. Hazel Monica M. Peralta** **Central Luzon State University, Philippines** Microsatellite-based characterization of *Paracalanus parvus* populations across coastal ecosystems of the straits of Malacca.	**1140 – 1155** Invited 5.3 **Dr. Nurul Adela Bukhari** **Malaysian Palm Oil Board, Malaysia** Succinic acid production from oil palm empty fruit bunches and its downstream purification process.	**1140 – 1155** Invited 6.3 **Dr. Muhamad Hafiz Abd Rahim** **Universiti Putra Malaysia, Malaysia** Biofertilizer potential of bacteria isolated from fermented banana peel in mushroom farming.
1155 - 1210 Oral 4.2 (Online) **Mrs. Nesheman Huma** **Bahria University Health Sciences Campus, Pakistan** From lab to field: designing RT-RPA based isothermal amplification method for citrus tristeza virus detection.	**1155 - 1210** Oral 5.1 **Dr. Meher Nahid** **Chattogram Veterinary and Animal Sciences University, Bangladesh** Reduction of acrylamide precursors in potatoes through nutrient management: A mitigation strategy.	**1155 - 1210** Invited 6.4 **Dr. Khalisanni Khalid** **Malaysian Agricultural Research and Development Institute, Malaysia** Encapsulation efficiency of probiotics with single and mixed prebiotic formulations for potential poultry feed additives.
1210 - 1225 Oral 4.3 (Online) **Prof. Dr. Danila S. Paragas** **Central Luzon State University, Philippines** Eco-friendly biopesticides from neem and lagundi extracts for sustainable management of onion armyworm (*Spodoptera exigua*).	**1210 – 1225** Oral 5.2 **Assoc. Prof. Dr. Suhaila Mohd. Omar** **International Islamic University Malaysia, Malaysia** Electrospinning of chitosan nanofibers derived from insect biomass.	**1210 - 1225** Oral 6.1 **Dr. Kanokwan Pundee** **King Mongkut's University of Technology Thonburi, Thailand** Optimization of coir pith vermicompost tea as a potent biocontrol agent against plant pathogens.

1225 – 1240 Oral 4.4 (Online) **Assoc. Prof. Dr. Siti Hamidah Mohd Setapar** **Universiti Teknologi Malaysia, Malaysia** Cultivation of microalgae using fruit waste as a nutrient source.	**1225 – 1240** YR Speaker 2.1 **Mr. Aris Fafon** **Kasetsart University, Thailand** Development of Cassava Flour-Modified Bacterial Cellulose Scaffolds Coated with BSA for Tissue Engineering.	
1240 – 1255 Oral 4.5 (Online) **Dr. Noor Liyana Yusof** **Universiti Putra Malaysia, Malaysia** Enhancing cold storage quality of carambola via vacuum impregnation with melatonin, GABA, and oxalic acid.	**1240 – 1255** YR Speaker 2.2 **Mrs. Afifah Husna Mat Saad** **Universiti Putra Malaysia, Malaysia** Solvent-free biodiesel synthesis using immobilized reconstructed ancestral lipase LUCA.	
1240 – 1330 Poster Presentation (Foyer, First Floor)		
1330 – 1430 Lunch (Foyer, First Floor)		
1430 – 1615 Technical Sessions		
Young Researcher Session 1 Session Chair: **Dr. Tan Teng Ju** **International Islamic University Malaysia, Malaysia** (Mesmera Ballroom 1, First Floor)	**Young Researcher Session 2** Session Chair: **Assoc. Prof. Dr. Khanom Simarani** **Universiti Malaya, Malaysia** (Inspirasi 1, Basement 1 Floor)	**Young Researcher Session 3** Session Chair: **Assoc. Prof. Ts. Dr. Mohamad Faizal Ibrahim** **Universiti Putra Malaysia, Malaysia** (Inspirasi 2, Basement 1 Floor)
1430 – 1445 Speaker YR 1.1 **Mr. Muhammad Kabir Hassan** **King Mongkut's University of Technology Thonburi, Thailand** Cellfectin mediated delivery of exogenous dsRNA enables spray-induced gene silencing in *Colletotrichum gloeosporioides.*	**1430 – 1445** Invited 5.4 **Dr. Muhammad Daaniyall Abd Rahman** **Universiti Putra Malaysia, Malaysia** Estimating of the economic impacts of biotechnology industries using input-output analysis.	**1430 – 1445** Speaker YR 3.1 **Mr. Hu Jintao** **Universiti Putra Malaysia, Malaysia** Process optimization and structural insight into RTX LUCA Lipase catalyzing long-chain fatty acid production from waste cooking oil.
1445 – 1500 Speaker YR 1.2 **Ms. Enas Sakkaamini** **Kyushu University, Japan** Osmolyte-based polymer systems for protein stabilization.	**1445 – 1500** Speaker YR 2.3 **Mrs. Yang Zhimei** **Universiti Malaya, Malaysia** Effects of co-application of chemical and organic fertilizers on SOC sequestration in tobacco-planting soils.	**1445 – 1500** Speaker YR 3.2 **Ms. Nurul Bari'ah Hamzah** **Universiti Teknologi Malaysia, Malaysia** Composting potential of pineapple waste for circular agricultural applications.
1500 – 1515 Speaker YR 1.3 **Ms. Siti Norishamizal Azfar Mohd Zamri** **Universiti Teknologi MARA, Malaysia** Molecular determination of genetic diversity by enterobacterial repetitive intergenic consensus PCR (ERIC-PCR) and antibiotic resistance pattern of *Klebsiella pneumoniae* from raw and cooked foods.	**1500 – 1515** Speaker YR 2.4 **Ms. Syazayasmin Sabparie** **Universiti Malaysia Sarawak, Malaysia** Endophytic *Trichoderma* Spp. as biocontrol agents against *Phytophthora capsici*, *Pyricularia oryzae*, and *Fusarium verticillioides.*	**1500 – 1515** Speaker YR 3.3 **Mrs. Wan Nur Syakilla Wan Ahmad Nasri** **Universiti Teknologi MARA, Malaysia** Neurotoxicity effects of antarctic soil fungi on differentiated SH-SY5Y human neuroblastoma cells.

1515 – 1530 Speaker YR 1.4 **Mr. Muhammad Hezreef Arif Mohd Kamarul Arif Pang** **Universiti Kebangsaan Malaysia, Malaysia** Development of modular CRIPSR/dCas13a platform for programmable RNA knockdown in bioengineered bacterial chassis.	**1515 – 1530** Speaker YR 2.5 **Mr. Muhammad Syahmi bin Mohd Zaid** **Atta-ur-Rahman Institute for Natural Product Discovery, Malaysia** Epigenetic modifications in soil fungi for anti-biofilm activity against oral pathogen, *Streptococcus mutans.*	**1515 – 1530** Speaker YR 3.4 **Ms. Nur Afiqah Ali** **Universiti Malaysia Sarawak, Malaysia** Utilization of chicken eggshell-derived catalyst as eco-friendly alternative for biodiesel production.
1530 – 1545 Speaker YR 1.5 **Mr. Oluwasola Michael Akinola** **Universiti Putra Malaysia, Malaysia** AptamerGen: deep learning framework for designing multi-target aptamers against digestive enzymes.	**1530 – 1545** Speaker YR 2.6 **Ms. Koonsirin Buraphan** **King Mongkut's University of Technology Thonburi, Thailand** Characterization of plant growth-promoting bacteria from mungbean root nodules in Thailand and their biofertilizer potential.	**1530 – 1545** Speaker YR 3.5 **Mr. Hazlam Shamin Ahmad Shaberi** **Universiti Kebangsaan Malaysia, Malaysia** Engineering *Synechocystis sp*. PCC 6803 for phototrophic production of psychrophilic polyethylene terephthalate hydrolase.
1545 – 1600 Speaker YR 1.6 **Ms. Ponnhmalar Subramaniam** **Universiti Kebangsaan Malaysia, Malaysia** Protein analysis of Wharton's Jelly mesenchymal stem cell secretome under hypoxic and normoxic conditions: potential for cell-free therapy in atopic dermatitis.	**1545 – 1600** Speaker YR 2.7 **Mr. Yusuf Ibrahim Sadisu** **King Mongkut's University of Technology Thonburi, Thailand** Potential of *Bacillus subtilis* 55-7 from Thailand as a dual function biofertilizer and biocontrol agent.	**1545 – 1600** Speaker YR 3.6 **Mr. Aisamuddin Ardi Zainal Abidin** **Sunway University, Malaysia** Could SmTCL-1 Long Terminal Repeats (LTR) Retrotransposons in symbiont algae symbiodinium be the key to saving corals from global warming?
1600 – 1615 Speaker YR 1.7 (Online) **Mr. Hassan Mohammed Sani** **Universiti Putra Malaysia, Malaysia** Optimising *Tetragenococcus halophilus* Growth for Enhanced Probiotic Feed in Red Hybrid Tilapia: Impacts on Health and Growth Performance.	**1600 – 1615** Speaker YR 2.8 **Mr. Mohammad Ali Zaber** **Chattogram Veterinary and Animal Sciences University, Bangladesh** Modulating acrylamide precursors through nutrient based strategies to control acrylamide formation in potato chips.	**1600 – 1615** Speaker YR 3.7 **Mr. Faisal Amir** **National Yunlin University of Science and Technology, Taiwan** Hydrothermal liquefaction of agricultural waste and aquatic biomass: a sustainable approach to biochar and biofuel production.
1615– 1630 Speaker YR 1.8 (Online) **Ms. Rathi Devi Nair Gunasegavan** Biogenic synthesis, characterization and biological activity of zinc oxide nanoparticles from red dragon fruit peels.	**1615– 1630** Speaker YR 2.9 **Ms. Iwana Zainudin** **Universiti Putra Malaysia, Malaysia** Surface charge engineering of microbial esterase for enhanced performance in acidic conditions.	**1615– 1630** YR Speaker 3.8 **Ms. Siti Farah Hanim Alhafiz** **Universiti Putra Malaysia, Malaysia** Evaluating *Nannochloropsis* sp. as a functional feed additive for Lates calcarifer Asian Sea Bass: growth performance and immunomodulatory effects.
1615– 1645 Afternoon Tea Break (Foyer, First Floor)		

1645 – 1730

Closing and Awards Reception Ceremony

Closing Speech

Assoc. Prof. Ts. Dr. Mohamad Faizal Ibrahim

Universiti Putra Malaysia

Award Presentation

(Mesmera Ballroom 1, First Floor)

Day 4

30 July 2025

0730 – 1530

Excursion

Join us for an exciting excursion around Kuala Lumpur, featuring stops at Tugu Negara (National Monument), Masjid Negara (National Mosque), the historic Old KL Railway Station, Merdeka 118 Tower, Central Market, Merdeka Square, the iconic Sultan Abdul Samad Building, and KL Tower!

Poster Sessions

Session 1	28 July 2025
P 1.1	**Ms. Nur Raihan Aqilah Binti Mohammad Azmin** **Universiti Teknologi MARA, Malaysia** Exploring Phytochemicals of Endophytic Actinomycete Extracts using Liquid Chromatography Tandem Mass Spectrometry Data Analysis
P 1.2	**Mr. Mohamad Izwan Dzulkifli** **Malaysian Agricultural Research and Development Institute, Malaysia** Influence of Alginate Concentration on Enumeration and Characterization of Probiotic Microbeads for Poultry Feed Additives
P 1.3	**Prof. Dr. Su-Der Chen** **National Ilan University, Taiwan** Effect of soaking and radio frequency roasting processing on germinated buckwheat tea
P 1.4	**Mr. Kim Haram** **Dankook University, South Korea** D-Lactate Assessment for Ensuring the Safe Use of Microorganisms as Food Ingredients.
P 1.5	**Mr. Chae Yeongjae** **Dankook University, South Korea** Genome Sequence Analysis of Enterococcus faecalis and Its Functional Probiotic Potential
P 1.6	**Mr. Jun Won Oh** **Korea University, South Korea** Green Bioprocess for Uroporphyrin I Production: Red Algae Saccharification and Microbial Transformation by *Corynebacterium glutamicum*
P 1.7	**Mr. Wu-Young Jeong** **Korea University, South Korea** Biosynthesis of Designer Metalloporphyrin through Programmable Porphyrin Production using Modular Cell Factory
P 1.8	**Mr. Dong-hyeok Hwang** **Korea University, South Korea** Modular Oligo-Transport Integration for Promoting Algal Sugar Assimilation and Porphyrin Production
P 1.9	**Mr. Tomonori Koga** **Kyushu University, Japan** Development of quantitative metabolic analysis methods using kinetic model in a complex microbial system
P 1.10	**Assoc. Prof. Dr. Yukihiro Tashiro** **Kyushu University, Japan** Establishment of Two-Stage Meso- and Thermophilic Anaerobic Digestion of Food Waste for Methane production
P 1.11	**Mr. Tan Ingram** **Kyushu University, Japan** A Self-Assembled Peptide Nanofibers for Enhanced Intratumoral Penetration
P 1.12	**Prof. Dr. Chia-Hung Kuo** **National Kaohsiung University of Science and Technology, Taiwan** Efficient extraction and physicochemical characteristics of soy protein from soybean meal
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PLENARY SPEAKER 1

Prof. Dr. Noriho Kamiya

Kyushu University, Japan

Engineering Biomolecules via Biocatalysis for Sustainable Biomanufacturing

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Abstract: A variety of biomolecules, essential components of life, have been used in various sectors of the bioindustry. Engineering of biomolecules from chemical and physical point of view is of great interest because it expands the molecular potential in biotechnology. Toward sustainable biomanufacturing, we are interested in applying enzyme-catalyzed reactions to a variety of biotechnological fields. In particular, we have exploited microbial transglutaminase (MTG), an enzyme that catalyzes the formation of covalent bonds between Gln and Lys residues, to obtain a variety of functional bioconjugates, such as lipid-protein conjugate as artificial antifungal protein and antibody-drug conjugate as an example of biopharmaceuticals. We have also been interested in integrating enzyme-catalyzed hydrogelation and fluorescence-activated droplet sorting (FADS) technology into high-throughput screening (HTS) of mammalian cells with enhanced protein secretion capability. This FADS system is also applicable to the HTS of recombinant MTG produced by cell-free protein synthesis. Finally, we have developed a sustainable protein production platform based on silkworm bioresources. Overall, the use of biocatalysis provides unique opportunities to design new functional biomolecules that should be supported by sustainable biomanufacturing.

Keywords: Bioconjugation; Biopharmaceutical; Insect biorefinery; Lipid; Transglutaminase.

PLENARY SPEAKER 2

Prof. Dr. Yu-Kaung Chang

Yuan Ze University, Taiwan

Enhanced Antibacterial Efficacy of PHMB-Immobilized Chitosan/Dye-Modified Nanofiber Membranes

Fan-Xuan Xu, Kuei-Hsiang Chen*, Yu-Kaung Chang*
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Abstract: A novel electrospun polyacrylonitrile (PAN) nanofibrous membrane with enhanced antimicrobial properties was developed through a multi-step functionalization process. Initially, the PAN nanofiber membrane underwent alkaline hydrolysis, followed by chitosan (CS) grafting to form a modified CS nanofiber membrane (P-COOH-CS). The modified membrane was further functionalized with different dye molecules, creating P-COOH-CS-Dye membranes. Finally, poly (hexamethylene biguanide) hydrochloride (PHMB) was immobilized to produce P-COOH-CS-Dye-PHMB. Comprehensive physical characterization was conducted on all synthesized nanofibrous membranes, and their antibacterial performance was systematically evaluated. Under optimal synthesis conditions, P-COOH-CS-Dye-PHMB demonstrated nearly 100% antibacterial efficiency against high concentrations of Escherichia coli. Additionally, the membrane exhibited excellent durability, maintaining its antibacterial efficiency with only a 5%–7% reduction after five wash cycles. These findings highlight the potential of P-COOH-CS-Dye-PHMB as a highly effective and reusable antibacterial nanofibrous membrane, suitable for applications in the textile, medical, and food industries.

Keywords: Electrospun nanofiber membrane, Antibacterial efficiency, Reactive dyes, Chitosan functionalization, Poly (hexamethylene biguanide) (PHMB), Wash durability.

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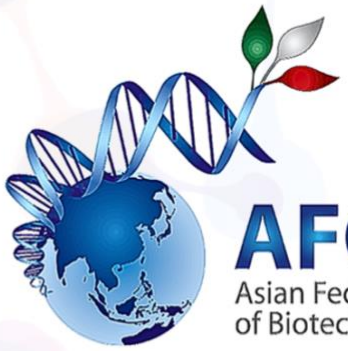

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